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MEASURING THE IMPACT OF THE KENYAN
FAMILY PLANNING PROGRAM

by

Alan P. Jones

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INSTITUTE FOR DEVELOPMENT STUDIES,
UNIVERSITY OF NAIROBI

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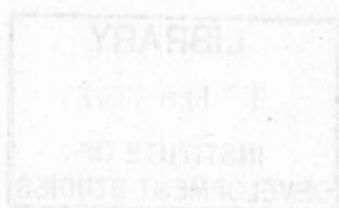
MEASURING THE IMPACT OF THE KENYAN
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ABSTRACT

The paper directs itself to the measurement of the impact of the Kenyan Family Planning Program in 1971. Existing measures are felt to be inadequate, but using these and data made available from a survey of family planning clients alternative and arguably superior measures are quantified. The data is presented on a district by district basis; great disparity in impact is readily apparent. These variations are to some considerable degree explained by differences in program inputs, however, so no conclusions about relatively more or less 'successful' districts can be drawn. Discussion of this last point will be taken up in a later paper.



MEASURING THE IMPACT OF THE KENYAN FAMILY

PLANNING PROGRAM

1. INTRODUCTION

This paper does not present a comprehensive evaluation of the Kenyan Family Planning Program (FPP), as such a task requires information about both program costs and 'output' that is not presently available. The objective here is the rather more modest one of quantifying, for 1971, the impact of the program in terms other than those already available. The additional measures¹ relate primarily to the contraceptive effect of the FPP; they do not in consequence reflect the whole range of objectives set for the Kenyan program e.g. maternal and child welfare, which are rather too vague as concepts to permit easy measurement.

11. Existing Measures of Program Impact

The only currently available statistics which in any sense measure the impact of the Kenyan FPP are those on visits made to clinics. These are available for the year 1971 for 37 of the administrative districts in Kenya. Of the other 4, 2 had no clinic in 1971 and 2, each reportedly having one clinic, did not report any attendances.² These statistics have been published³ under three headings:

1. The additional indices have been derived using data from a survey of family planning program clients which is described in Section IV of this paper. This survey was initiated together with the former representative of the Population Council to Kenya, E. James Fordyce. It was made possible only with the co-operation of the Kenyan Ministry of Health and the financial assistance of the Population Council. None of these parties is responsible for the content of the paper.

2. Mandera and Turkana were the districts with no clinic in 1971, and Garissa and Wajir the ones with only one clinic which failed to report any attendances. Other districts it may be noted also had clinics that reported no attendances.

3. Ministry of Health Progress Report on Family Planning April, 1972, Mimeo, and Jamii: The Family Planning Journal of Kenya vol. 1, 2, 1972 pp 8-9.

- i. First Visitors; the number of persons making an initial visit to a clinic. This is not the same as the number of new acceptors (of a device) because of some degree of non-acceptance.⁴
- ii. Revisitors; the number of persons making other than initial visits to clinics. In fact this statistic is the number of revisits, this not being identical with the number of revisitors to the extent that multiple revisiting by individuals occurs.
- iii. Total Visitors; the number of persons making visits of both types. Again misinterpretation is apparent; this figure is the number of visits not the number of visitors. These two are not the same thing both to the extent that multiple revisiting and the making of the initial and subsequent visits in the same time period occurs.⁵

As a complement to these visits statistics there is further information on the distribution of new acceptors between alternative devices and the number of new acceptors as a percentage of the (1969) female population aged between 15 and 49. This last calculation is presumably made in the belief that this group is in some sense the 'eligible' population.

In terms of analysis the emphasis in Kenya has been on the visits statistics. Evaluation units elsewhere have placed emphasis here also. This is perhaps explained by the relative speed and ease with which these figures can be made available. The convenience factor apart, however, we may note that these figures are inadequate as an index of program performance. They do not, for example tell us anything about client use of contraceptives once within the program nor about the number of clients

4. Non-acceptance runs at the rate of about 3-5% of first visitors. As our statistic on first visits differ somewhat from the official figures for 1971 (see) we were not able to derive new acceptor figures. Accordingly we ignored the fact of non-acceptance with some consequent upward bias to our other indices.

5. The misinterpretations referred to here are not apparent in Kenya government Economic Survey 1973 Table 12.3

practising contraception through the FPP in any time period. More importantly, perhaps, they do not directly yield any data about the demographic impact of the FPP. Indirect derivation⁶ of such data is possible but the techniques available are not entirely satisfactory. The statistics on visits are not without their value however, especially those of first visits. This may be most usefully expressed as a proportion of the eligible population, though the definition of this is not without its difficulties. Being both relatively easy to compute and interesting this statistic may well be one way, perhaps the only way, in which targets for a FPP are quantified. In Kenya the FPP is to be expanded in order to achieve two targets in fact;⁷ 640,000 new entrants and 150,000 'births averted' in a five year period. A brief examination of the circumstances under which these two targets are compatible will illustrate the deficiency of the new entrants statistic as an index of program performance.

The prevention of any number of births by a FPP will require that some amount of protection from conception be generated by the program. Just how much will depend on the fertility rate that would otherwise have prevailed. If the number of births per 1000 women in the fertile age group (the general fertility rate were 210,⁸ then these two targets for the Kenyan FPP are compatible only if the new entrants remain with the program as effective users of contraceptives for about 13 months on average.⁹ In the total absence of any information with which we could decide whether this is a reasonable expectation we are in no position to make an assessment

6. See W. Parker Mauldin 'Births averted by Family Planning Programs' Studies in Family Planning number 33, August 1968 and Reynolds J. 'Evaluation of Family Planning Program Performance: A Critical Review' Demography 9,1,1972 pp. 69-86.

7. The adoption of higher targets is suggested in other sources. In 'Employment Incomes and Equality; a strategy for increasing productive employment in Kenya' I.L.O. Geneva 1972 we find reference to a target of preventing 230,000 births in a five year period (p. 128) In U.S. Agency for International Development document 'Population Program Assistance' we find reference to a target of attracting 1.16 million new acceptors in five years (p. 198).

8. This figure is suggested by a smoothed population distribution for Kenya prepared by E. James Fordyce.

9. The considerably higher targets referred to in footnote 7 imply an average retention of only 11.3 months.

of these two targets taken together. Clearly, therefore, the need or desire to set targets in terms of 'births averted' implies that the evaluation team not expend all of its energies on the collection only of first visits statistics. Nor is the revisits statistic helpful either; it does not tell us how many clients returned after the initial visit, which clients did so, why they did so or to what effect in terms of 'receipt of contraception'.

Though the first and revisit statistics taken singly are not very useful we may note that when aggregated they may serve as a guide to capacity utilisation within a FPP. If, as in Kenya, these figures are made available on a disaggregated basis they may in their turn provide a guide to the distribution of new clinic facilities as they become available. Alternative criteria for the allocation of new clinics might also be proposed of course.

111. Alternative Measures of Program Impact.

In this section we describe four alternative measures of program impact, all of which follow directly from the criticisms made above of the visits statistic. In subsequent section we offer some estimates of three of these additional indices for the Kenyan Program in 1971.

- a. The number of active clients in any time period, where active is defined as 'practising contraception through the FPP'. This will not equal the number of new entrants, except in the initial year of a program, unless there is zero carry over of clients from one period to another. Nor will it equal the cumulative total of new entrants unless there is zero drop-out from the program. Neither zero carry over nor zero drop-out is likely. The number of active clients like that of new entrants, may usefully be expressed as a proportion of the 'eligible number', however this is defined. The deficiency of this statistic is that it tells us nothing about the practice of contraception by the FPP clients.
- b. The retention of clients i.e. the (average) time between initial entry to and departure from the program. The importance of this was apparent from the earlier discussion of the compatibility of the two targets for the Kenyan FPP. This also tells us too little to permit its use as the sole index of program performance.
- c. The amount of protection from conception generated by the FPP. This will equal the number of active clients multiplied by their average use of devices in the specified time period. The latter it must be clear is not what was meant by retention above;

retention refers to the clients complete family planning history rather than some single time period therein. The very important attribute of this measure is that it reflect both the attraction of new clients to the FPP and their retention within it. It could, then, serve as the main or even the only index of impact. As family planning programs usually have some reduction in the rate of population growth as an objective, however, there is an understandable interest in further estimating the demographic impact of the program.

- d. The demographic impact. This will be exerted through a change in fertility, usually reckoned to be a negative one. The available techniques for measuring the change in fertility have been classified¹⁰ into three groups:
 - i. Direct measures of fertility change within one group, perhaps the entire population.
 - ii. Direct measures of fertility change in one group, the 'family planners', as compared with other control groups.
 - iii. Indirect measures which require that the amount of protection from conception, usually termed 'couple' or 'woman years of contraception', first be calculated.

Of all the techniques so classified all but one (examination of trends in actual births) permit the results to be expressed as a number of births averted. Despite criticism of this concept¹¹ considerable interest continues to be shown; Kenya it was noted earlier has set a target for her FPP in these terms. We will later offer a tentative estimate of the impact of the Kenyan FPP in terms of births averted. It may be noted at this juncture, however, that though our method is of the indirect variety it differs from those of other studies. The estimate for Kenya was made by calculating the number of women years of contraception generated by the FPP in 1971. and relating this to fertility rates. Other studies by comparison have used "..... formulas.... to translate service statistics data (IUD's inserted, pills distributed) into estimates

10. See Reynolds op.cit.

11. Reynolds op.cit. p. 76.

of gross births averted....."¹² These formulas have the appeal of simplicity once the parameters are set out but establishing these is often a question of either dubious guess work or equally dubious transference of other countries experiences about the length of time that various devices will provide effective protection.

In the following section we describe a survey of family planning clients. As a result of this we were able to estimate the impact of the Kenyan FPP in terms of three of the supplementary measures discussed here. We were not able to estimate average retention of clients by the Kenyan program as our survey did not extend far enough through time to cover the complete family planning history of all members of any randomly selected group of clients.

IV. The Survey.

For its own purposes the Kenyan Ministry of Health, in which is located the overall administration of the program, had separated out the record cards of those clients making visits to clinics in the period May 1970 to December 1971 and whose client number ended in either a zero or five. From these we used only those clients who made their first visit in the period so that our client histories would, so far as we could ensure, be complete. This means of selecting a sample may not appear to be random in the usual sense. As the distribution of record cards to clinics appears to have been completely random itself however, we were content to proceed in the belief that our sample was random as between and within clinics and therefore, districts.

From the first visit component of the record we abstracted the following information, all of which pertained to the client as of the date of entry to the FPP; client age, marital status, years of marriage, number of living and deceased children, years of education, device adopted, date of first visit and whether the client had previously practised contraception. As we were dealing in units of months we rounded off the date of entry to the nearest month end. From the same source we recorded, for pill users, the number of cycles received, and for users of the injection method the size of the dosage received. For users of

12. Reynolds op. cit. P. 76.

the IUD method no such idea of the 'amount of protection received' is applicable. Instead we recorded the date of the first visit as noted earlier. From revisit cards we supplemented this data on the use of contraceptives in the way indicated; cycles of pill received by pill users, injections received by injection users and the date and purpose of visits by IUD clients. We assumed that all cycles of the pill received were in fact used, and that IUD's remained in situ unless there was specific reference to removal or rejection. These assumptions are clearly going to impact an upward bias to our estimates of individual use. Simplicity is the only defence we can offer. Using this data and the derived date of commencement of usage we then calculated months of use overall and for 1971 separately. Where sufficient cycles of the pill or injections had been received to place the date of the next visit in 1972 (for which we have no data) we classified the client as non-terminated. IUD users were so classified if there was no reference to removal or rejection in their record.

Of the data available from these case histories the following is relevant to our present purposes:

- i. the number of visits made to clinics by each client using contraceptives in 1971. From this we calculated an average number of visits per active client. Used in conjunction with data on total recorded visits this permitted us to estimate the total active clients in 1971.
- ii. the number of months of usage by active clients in 1971. The average of this when multiplied by the estimate of total active clients gave us an estimate of woman months of contraception generated by the FFP.

Before discussing our estimates it is as well to note that they are just that and that their reliability is questionable. This is because our methodology assumes accurate record keeping by clinics and non-loss of records. About the former we know nothing but can be healthily sceptical. As regards loss of records we can be more definite; some loss does appear to occur judging from the gaps that exist in the case histories of some clients. Our estimates of average use were made on the assumption that these gaps were genuine; they are then perhaps biased downwards somewhat. We have no way of telling whether the records of other

clients were similarly incomplete but not in a way that showed itself as an apparent discontinuity in usage.

V. The Results.

As mentioned earlier the only statistics presently available which could be used to measure program impact are those on visits to clinics. As these are crucial element in our derivation of other measures they are given in Table 1 for each of the 37 districts having clinics and reporting attendances in 1971. In many cases the figures in Table 1 do not agree with official published figures.¹³ Some of the discrepancies are small; they generally represent errors of addition. Others however are significantly large; these are due either to the failure of the official figures to include visits made to clinics opened very late in 1971 or to the misallocation of clinics between districts. Also included in Table 1 is an estimate of the number of new entrants as a proportion of the eligible population, where this was taken to be the number of women aged between 15 and 44 in 1969.¹⁴ As the definition relates to 1969 it is to some degree a generous one. In other respects, however, the definition is severe. This is because of this age group some will already have been active users at the beginning of 1971, some will not be exposed to conception and of those that are some will be desirous of conceiving. None of these is in any sense to be regarded as eligible for entry to the FPP in 1971. It is only possible to suggest an estimate

13. The official statistics detail visits data by administrative boundaries that are no longer in use, whereas we employ current boundaries throughout. The differences are as follows (old boundaries given first); Central Rift Valley (Nakuru plus Baringo), Sirikwa (Elgeyo-Marakwet, Mandi, Trans Nzoia, Uasin Gishu and West Pokot) and Kisumu (Kisumu plus Siaya). The Nairobi statistic relate to all clinics in the City, whereas our survey excluded clients from clinics operated by the Nairobi City Council, which clinics are not integrated into the National FPP and do not comply with the standard reporting practices of the National program. We have no means of testing whether the implicit assumption is a reasonable one.

14. This definition of eligible implies either zero 'spillover' of clients from one district, their places of residence, to others wherein the clinics they use are located OR that such spillovers cancel out to zero.

of the number already participating in the program at the beginning of 1971 and adjust the eligible number accordingly. Column 4 of Table 1 contains an estimate of the number of new entrants as a proportion of this amended eligible population. As can be seen the amendment makes a difference in only a few districts. Estimation of the numbers already active in the FPP at the beginning of 1971 was done as follows; from our estimate of active clients in 1971 we subtracted the number of new entrants in 1971, the residual being by inference the number carrying over from 1970.

It may be noted from Table 1 that the number of visits made to the clinics in some districts is very small. This implies a small number of active clients, both in total and in our sample. Where this was the case, no attempt was made to generate the additional indices as the sample size was too small for reliance to be placed upon the data derived therefrom. In terms of aggregates of course, the exclusion of these districts has little effect.

Certain features of the inter-district variability in visits are worth noting here. First the two almost wholly urban districts, Nairobi and Mombasa, rank one two respectively in terms of the proportion of the eligible population attracted into the FPP as new clients in 1971. Nairobi, however, performs substantially better than does Mombasa. Secondly we may note that a small number of the other districts stand out from the others with performances in some cases near to that of Mombasa. Finally we may note that of the others many perform very poorly indeed registering very few new entrants.

The first additional statistic derived was an estimate of the number of active users of contraceptives through the FPP in 1971. This was calculated by dividing the total number of visits for each district by the average number of visits made by active clients in that district as indicated in the sample. The accuracy of this mean estimate of active clients is indicated in column 3 of Table 2 where the possible margin of error (at the 95% confidence level) of the estimate of average visits is given. Column 4 gives the best guide to inter-district variability as it gives the mean estimate of active clients as a percentage of the eligible population, here defined to be the female population aged

between 15 and 44 in 1969. Nairobi again stands out as the most 'successful' district, but many districts appear to do much better in terms of this index rather than in terms of new entrants because of substantial 'carry-overs' from 1970. Where the ratio of clients carrying over to the number of new entrants is high there will, of course, be the greatest apparent improvement in performance. Notable among the poor performance districts are Kwale, Kitui, South Nyanza and Busia. In all of these only 0.3% of the relevant populace were active users of devices in 1971.

To generate an estimate of the 'women years' of contraception achieved by the FPP we multiplied the estimate of active clients by an estimate of average use by these active clients in 1971. This latter information too was made available by our survey. In fact we have a mean, low, and high estimate for average use by active clients just as we have for the number of active clients. Restricting ourselves to the two extreme values and the mean for both of these we could then produce a most pessimistic, a most optimistic, a mean and four other estimates of women years of contraception. We have limited ourselves in fact to the mean estimate (in some sense the best available) and the most optimistic estimate (simply because it is that).¹⁵ These are given in Table 3 together with the survey data on average use. (The data on active clients is given in Table 2). As can be readily seen the range between our mean and high estimates is large; this reflects both the sample size used and the variability in usage as between clients. In the case of many districts the possibility of increasing the reliability of the estimate by taking a larger sample was simply not present.

The data in Table 3 is of rather limited usefulness as it stands, standardisation by reference to some measure of potential effect clearly being necessary. Again we can suggest only what appears to be a rather severe interpretation, namely the number of women in the 15-44 age group in 1969. As any adjustment to this would have to be made in across the board manner, however, we can employ this concept of the potential effect for the purpose of

15. The most 'pessimistic' and 'most optimistic' estimates are not symmetrical around the mean estimate.

inter-district comparisons. Table 4 gives two indices of the realisation of this potential; the first relates to the mean estimate and the second to the most optimistic estimate. Examination of the 'high estimate' column indicates that some $\frac{1}{3}$ of districts achieved 1% or less of the potential. The mean estimate yields a correspondingly less impressive picture; nearly one half of the districts fail to realise more than 1% of the potential.

The fourth and final additional index suggested earlier is the reduction in fertility generated by the FPP. Our technique lends itself only to the indirect measurement thereof through 'births averted'. The reservations of some authorities about this were noted earlier. We offer (see Table 5) an estimate only as a broad order of magnitude. Again we offer two estimates; our 'best' or mean estimate and a 'most optimistic' estimate. These were derived by multiplying the mean and high estimates of woman years of contraception generated by the program in each district by district general fertility rates as measured for 1969. By inferring that in the absence of the FPP the fertility rates would have continued at their 1969 levels we are not only making an unreasonable assumption per se but also one which may well bias our estimates upwards.

VI. In Conclusion.

In our discussions of measures of program impact we have presented the data on a district by district basis and on occasion have referred to degrees of 'success' achieved by districts. Such reference to success is somewhat premature, however, because the supply of clinic services varies greatly between districts and the variability in 'output' that exists is explained to some considerable degree by this factor. Space and the incompleteness of the analysis do not permit elaboration here. This being the case we ought not draw conclusions about some districts being 'successful' and others not successful until we have standardised for clinic supply.

At the aggregate level our estimates of impact in terms of the additional indices suggest considerable scope for improvement. The targets for the expanded program indeed indicate this themselves. Whether the achievement of the 640,000 new entrants target (which

is likely to be adopted as the 'working target') will ensure the prevention of 150,000 births is impossible to say at present. If this target were achieved however it would represent a reduction in the population growth rate from 3.5% to something around or even less than 3.2% per annum.¹⁶ This would be no mean achievement in such a short period of time.

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16. Assuming that the rate of 3.5% would have been maintained in the absence of the FPP.

TABLE 1
1971. First and Total Visits to Clinics

District	Total Visits	First Visits	New entrants as percentage of eligible	
			A	B
Kiambu	22059	4421	5.1	5.4
Kirinyaga	4280	1007	2.6	2.6
Murang'a	5077	1071	1.2	1.2
Nyandarua	4218	1056	3.6	3.7
Nyeri	14022	4009	5.9	6.2
Kilifi	1371	431	0.8	0.8
Kwale	377	113	0.3	0.3
Lamu	127	25	0.6	0.6
Mombasa	13512	3060	6.9	7.2
Taita	946	310	1.4	1.4
Tana River	30	25	0.2	0.2
Embu	2971	806	2.4	2.5
Isiolo	168	55	0.9	0.9
Kitui	629	130	0.2	0.2
Machakos	7893	1753	0.5	0.5
Marsabit	88	45	0.5	0.5
Meru	12482	3086	2.5	2.6
Kisii	2736	608	0.5	0.5
Kisumu	2903	1020	1.4	1.4
Siaya	1701	609	0.7	0.7
South Nyanza	612	216	0.1	0.1
Baringo	474	176	0.5	0.5
Elgeyo-Marakwet	81	24	0.1	0.1
Kajiado	340	125	0.8	0.8
Kericho	3234	850	0.9	1.0
Laikipia	1532	656	5.5	5.7
Nakuru	6018	1713	3.4	3.6
Nandi	777	217	0.5	0.6
Narok	129	31	0.1	0.1
Samburu	48	15	0.1	0.1
Trans Nzoia	1177	268	1.1	1.1
Uasin Gishu	1417	478	1.4	1.4
West Pokot	62	13	0.1	0.1
Bungoma	1984	451	0.7	0.7
Busia	199	54	0.1	0.1
Kakamega	4337	1427	1.0	1.0
Nairobi	62212	11285	10.7	12.8
TOTAL	182733	41739	2.0	2.1

TABLE 2

Estimating Active Clients 1971

District	Average Visits by Sample	Error of Estimate + or - %	Mean Estimate of Active Clients	Mean Estimate as % of eligible
Kiambu	2.43	17.7	9078	10.4
Kirinyaga	1.93	11.4	2218	5.6
Murang'a	2.10	11.4	2418	2.7
Nyandarua	1.98	13.1	21.30	7.3
Nyeri	1.68	16.7	8346	12.2
Kilifi	1.89	20.1	725	1.1
Kwale	3.00	24.3	135	0.3
Lamu	n.a.	n.a.	n.a.	n.a.
Mombasa	2.8	16.1	4826	10.9
Taita	1.91	12.6	495	2.3
Tana River	n.a.	n.a.	n.a.	n.a.
Embu	1.92	19.8	1447	4.6
Isiolo	n.a.	n.a.	n.a.	n.a.
Kitui	3.08	23.7	204	0.3
Machakos	2.32	18.5	3402	2.5
Marsabit	n.a.	n.a.	n.a.	n.a.
Meru	1.97	16.8	6336	5.2
Kisii	2.21	13.6	1238	1.0
Kisumu	1.76	19.3	1649	2.3
Siaya	1.75	16.0	972	1.2
South Nyanza	1.51	19.2	405	0.3
Baringo	1.86	19.9	255	0.8
Elgeyo-Marakwet	n.a.	n.a.	n.a.	n.a.
Kajiado	1.34	33.6	254	2.2
Kericho	1.67	22.8	1937	8.9
Laikipia	1.42	29.6	1079	9.0
Nakuru	1.77	19.8	3400	6.8
Nandi	1.78	25.3	437	1.1
Narok	n.a.	n.a.	n.a.	n.a.
Samburu	n.a.	n.a.	n.a.	n.a.
Trans Nzoia	2.11	22.7	558	2.2
Uasin Gishu	1.79	25.7	792	2.3
West Pokot	n.a.	n.a.	n.a.	n.a.
Bungoma	2.43	14.8	816	1.2
Busia	1.57	38.9	127	0.3
Kakamega	1.68	17.3	2482	1.8
Nairobi	2.12	14.2	29435	27.9
TOTAL			87706	4.1

TABLE 3

Estimating Women Years of Contraception 1971

District	Average Use by active clients in months	Error of Estimate + or - %	Woman Years of contraception	
			Mean Estimate	High Estimate
Kiambu	5.42	13.3	4100	5371
Kirinyaga	4.58	14.4	847	1358
Murang'a	4.41	15.0	889	1165
Nyandarua	4.28	20.3	760	1033
Nyeri	4.51	21.5	3137	4447
Kilifi	3.26	27.3	197	301
Kwale	4.59	24.2	52	80
Lamu	n.a.	n.a.	n.a.	n.a.
Mombasa	5.06	17.8	2035	2783
Taita	4.37	19.0	180	241
Tana River	n.a.	n.a.	n.a.	n.a.
Embu	5.13	14.6	661	908
Isiolo	n.a.	n.a.	n.a.	n.a.
Kitui	5.30	24.7	90	139
Machakos	5.35	18.3	1517	2126
Marsabit	n.a.	n.a.	n.a.	n.a.
Meru	6.11	13.1	3226	4262
Kisii	5.98	15.1	617	806
Kisumu	3.71	21.8	510	741
Siaya	2.05	20.5	166	232
South Nyanza	5.84	18.2	197	278
Baringo	5.14	24.1	109	163
Elgoyo-Marakwet	n.a.	n.a.	n.a.	n.a.
Kajiado	4.80	25.0	102	170
Kericho	4.40	22.0	710	1064
Laikipia	5.12	25.2	460	747
Nakuru	4.38	19.6	1241	1778
Nandi	4.65	27.5	169	271
Narok	n.a.	n.a.	n.a.	n.a.
Samburu	n.a.	n.a.	n.a.	n.a.
Trans Nzoia	4.53	22.5	211	317
Uasin Gishu	4.38	22.1	289	444
West Pokot	n.a.	n.a.	n.a.	n.a.
Bungoma	4.42	17.6	301	406
Busia	3.14	32.5	33	61
Kakamega	3.86	21.0	831	1179
Nairobi	5.59	12.5	13670	17562
TOTAL			37307	50433

TABLE 4

Realised Woman Years as a Percentage of Potential

District	Mean Estimate	High Estimate
Kiambu	4.7	6.2
Kinyaga	2.1	3.4
Murang'a	1.0	1.3
Nyandarua	2.6	3.5
Nyeri	4.6	6.5
Kilifi	0.3	0.5
Kwale	0.1	0.5
Lamu	n.a.	n.a.
Mombasa	4.6	6.3
Taita	0.8	1.1
Tana River	n.a.	n.a.
Embu	2.0	2.7
Isiolo	n.a.	n.a.
Kitui	0.1	0.2
Machakos	1.1	1.6
Marsabit	n.a.	n.a.
Meru	2.7	3.5
Kisii	0.5	0.6
Kisumu	0.7	1.0
Siaya	0.2	0.3
South Nyanza	0.1	0.2
Baringo	0.3	0.5
Elgoyo-Marakwet	n.a.	n.a.
Kajiado	0.6	1.0
Kericho	0.8	1.2
Laikipia	3.9	6.2
Nakuru	2.5	3.6
Nandi	0.4	0.7
Narok	n.a.	n.a.
Samburu	n.a.	n.a.
Trans Nzoia	0.8	1.3
Uasin Gishu	0.8	1.3
West Pokot	n.a.	n.a.
Bungoma	0.1	0.1
Busia	0.1	0.1
Kakamega	0.6	0.8
Nairobi	13.0	16.7
TOTAL	1.7	2.4

TABLE 5

Births Averted by the Kenyan FPP in 1971

District	Mean Estimate	High Estimate
Kiambu	943	1235
Kirinyaga	237	380
Murang'a	222	291
Nyandarua	251	341
Nyeri	690	978
Kilifi	35	54
Kwale	10	15
Lamu	n.a.	n.a.
Mombasa	427	584
Taita	40	53
Tana River	n.a.	n.a.
Embu	172	236
Isiolo	n.a.	n.a.
Kitui	20	31
Machakos	349	489
Marsabit	n.a.	n.a.
Meru	645	852
Kisii	154	201
Kisumu	122	178
Siaya	33	46
South Nyanza	35	50
Baringo	21	31
Elgoyo-Marakwet	n.a.	n.a.
Kajiado	22	37
Kericho	163	245
Laikipia	124	202
Nakuru	310	445
Nandi	37	60
Narok	n.a.	n.a.
Samburu	n.a.	n.a.
Trans Nzoia	49	73
Uasin Gichu	75	115
West Pokot	n.a.	n.a.
Bungoma	72	97
Busia	7	13
Kakamega	208	295
Nairobi	1914	2450
TOTAL	7387	10086